

## Experimental GIS Compatible NDFD Data on the WFO Internet Page Product Description Document

### Part I – Mission Connection

A. Product Description. NOAA's National Weather Service (NWS) Weather Forecast Offices (WFOs) produce graphical forecasts for the National Digital Forecast Database (NDFD). The NDFD forecasts are available to the public in GRIB2 format, a World Meteorological Organization standard. Unfortunately, this format is not widely used outside of the meteorological community. In this project GRIB2 files from the MFR county warning and forecast area are converted to shapefile format and posted to the internet webpage. The domain is shown in Figure 1.

B. Product Type. Experimental.

C. Purpose. Many customer groups use GIS technology, especially land management agencies, emergency responders and the public. Providing NDFD forecasts in GIS format allow customers to ingest NDFD forecast data into GIS applications allowing them to display forecasts graphically and use the inactive features.

D. Audience. Customers using GIS applications can include NDFD forecast data as a feature. An example of a potential use is for a search and rescue unit to display the forecast temperatures for a search area which supports the mission of the NWS to protect life and property; also, a land management agency can supplement text forecasts in a fire weather event by displaying the minimum relative humidity and wind along with the topography for an area of concern to enhance fire fighter safety.

E. Presentation Format. The shapefiles will be available from the WFO internet website. Standard names will be given to files to allow customers to use automated downloads.

F. Feedback Methods. Feedback will be obtained by providing for general comments to be submitted from the website. People who use the comment section of the website will automatically send an email to [mfr.shape@noaa.gov](mailto:mfr.shape@noaa.gov), which will be received by the entire development team for this project.

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G. Prototype Period. December 1, 2006 to May 30, 2007 (estimated).

H. Future Considerations. If the experiment proves feasible, additional weather elements can be added. ESRI's ArcGIS 9.2 will be capable of ingesting NetCDF files directly. Upon its release, NetCDF files direct from GFE may be posted to the webpage. This will allow display of the data in its native 2.5 km resolution.

I. Example Product URL.

The URL for this experimental data is: <http://www.wrh.noaa.gov/mfr/fcst/shape.php>

J. Approval.

PDD approved by Vickie Nadolski, WR Regional Director.

**Part II – Technical Description**

A. File Description. The data will be presented in GIS shapefile format. Shapefiles consist of shp, dbf, txt and shx files. All four are necessary to display the data and will be presented in a zipped file. Initially, the forecast parameters presented will be maximum temperature, minimum temperature, and wind speed. Additional parameters may be added upon customer request. The files have a constant naming convention so new data overwrites old.

B. Software. Scripts to automatically prepare and post the data will be run twice daily at 00Z and 12Z. Updates will not be available.

C. File Specifications.

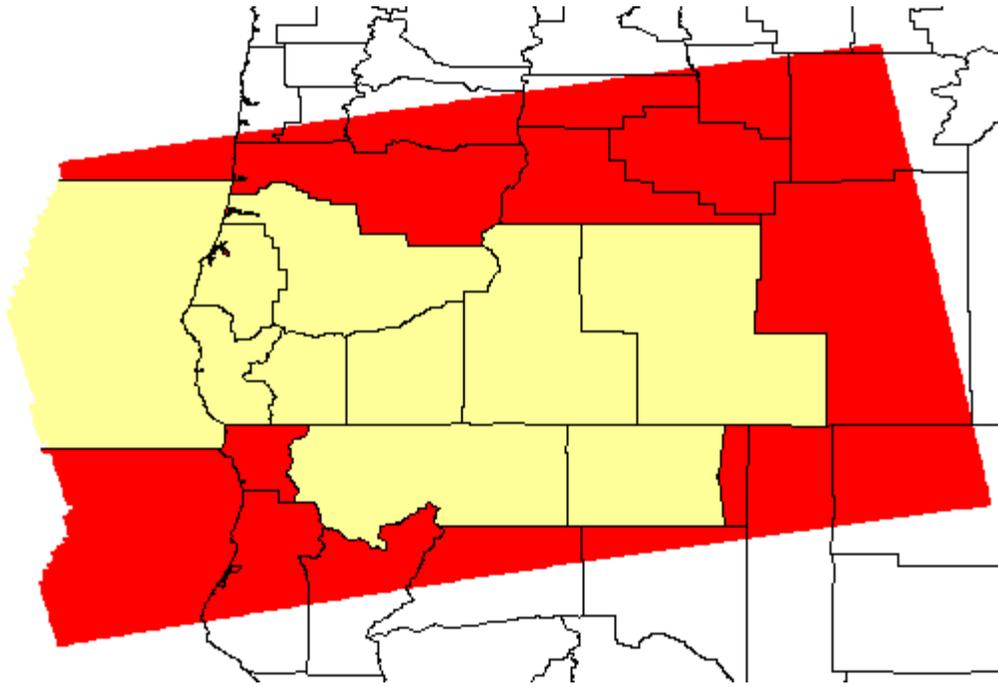
File Types: Download of GRIB2 binary files – \*.bin  
Posting of zipped GIS files (\*.shp, \*.shx, \*.dbf, \*.txt) – \*.zip

File Size: GRIB2 – ~40 kb  
Unzipped GIS – ~975 kb  
shx – 50 kb  
shp – 850 kb  
dbf – 75 kb  
Zipped GIS – ~220 kb

Number of files:

Download: 3 files twice per day  
Upload: 112 total per day  
MaxT – 7 twice per day  
MinT – 7 twice per day  
WindSpeed – 42 twice per day

Frequency of Update: Files will be updated twice daily at 00Z and 12Z.



**Figure 1 Data Domain (Red), WFO Medford CWA (Yellow)**